



## Application for Certification as an Eligible Energy Resource Under the Delaware Renewable Energy Portfolio Standard

1. Name of Facility  
**Noebel, Konrad Residence - K Noebel**

2. Facility Address  
**17 Vassar Dr**  
**Rehoboth Beach, DE 19971**

Is the facility located within the PJM control area?

☒ Yes

☐ No

If No, does the Facility have import capabilities?

☐ Yes

☐ No

3. Name of Owner  
**Konrad Noebel**

Mailing Address

**17 Vassar Dr**

**Rehoboth Beach, DE 19971**

Phone **(302) 645-6225** Fax \_\_\_\_\_

Email **btcx@msn.com**

4. Name of Operator

same as owner

Mailing Address

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Email \_\_\_\_\_

5. Name of Contact Person

Allyson Browne, SRECTrade, Inc.

Mailing Address

201 California Street, Suite 630

San Francisco, CA 94111

Phone (415) 763 - 7732 ext. 1 Fax (415) 763 - 7732

Email applications@srectrade.com

6. Name of REC/SREC Owner

same as owner

Mailing Address

\_\_\_\_\_  
\_\_\_\_\_

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Email \_\_\_\_\_

7. List all PJM-EIS GATS State Certification Numbers assigned to this facility:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Operational Characteristics:

Fuel Types Used (check all that apply):

☐ Gas combustion from the anaerobic digestion of organic material

☐ Geothermal

☐ Ocean, wave or tidal actions, currents, or thermal differences

☐ Qualified Biomass<sup>i</sup>

☐ Qualified Fuel Cells<sup>ii</sup>

☐ Qualified Hydroelectric<sup>iii</sup>

☐ Qualified Methane Gas captured from a landfill gas recovery system<sup>iv</sup>

☒ Solar

☐ Wind

If co-firing, provide the formula on file with PJM Environmental Information Services, Inc. (PJM-EIS) n/a

Rated Capacity (in megawatts) 0.0084 MW ✓

If multiple fuel types are utilized, attach the formula for computing the proportion of output per fuel type by megawatts per hour generated.

Facility **Final Approved Interconnection Date** 02/18/16 ✓

If co-firing with fossil fuels, co-fire start date n/a

If co-firing with fossil fuels, attach the allocation formula on file with PJM.

9. Is the Applicant's facility customer-sited generation<sup>v</sup>?

☒ Yes ☐ No

Is the Applicant's facility a community owned generating facility<sup>vi</sup>?

☐ Yes ☒ No

Can the output from the customer-sited generation be appropriately metered?

☒ Yes ☐ No

I, Allyson Browne (print name) hereby certify under penalty of perjury that

1. I have made reasonable inquiry, and the information contained in this Application is true and correct to the best of my knowledge, information and belief.
2. I am authorized to submit and execute this Application and to bind myself and/or my company to the representations contained herein.
3. I /my company agree(s) to comply with and be subject to the jurisdiction of the Public Service Commission of the State of Delaware for any matters arising out of my submission of this Application or the granting of the Application.
4. In the event that any of the information contained in this Application changes pending the consideration of this Application or after the Application is granted, I/my company will amend the Application to provide the Commission with such changed information.
5. I acknowledge that if any of the representations made in this Application or in any amendment thereto are found to be untrue when made, I/the company may be subject to sanctions, including but not limited to monetary fines and/or the revocation of any Certificate granted as a result of the representations made in this Application.

Signature: Allyson Browne

Date: 03/23/2016



## PART 1

### DELAWARE LEVEL 1 INTERCONNECTION APPLICATION & AGREEMENT

With Terms and Conditions for Interconnection  
(Lab Certified Inverter-Based Small Generator Facilities Less than or Equal to 10 kW)  
(Application & Conditional Agreement – to be completed prior to installation)

#### INTERCONNECTION CUSTOMER CONTACT INFORMATION

Customer Name: Konrad Noebel  
Mailing Address: 17 Vassar Drive # L113  
City: Rehoboth Beach State: DE Zip Code: 19971  
Contact Person/Authorized Agent (If other than above): \_\_\_\_\_  
Mailing Address (If other than above): \_\_\_\_\_  
Telephone (Daytime): 302-645-6225 (Evening): \_\_\_\_\_  
Fax Number: \_\_\_\_\_ E-Mail Address (Required): btcx@msn.com

#### Alternate Project Contact Information: (if different from Customer-Generator above)

Alternate Name: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_  
Telephone (Daytime): \_\_\_\_\_ (Evening): \_\_\_\_\_  
Fax Number: \_\_\_\_\_ E-Mail Address: \_\_\_\_\_

If an email is provided for your alternate contact, that contact will receive all email communications.

#### FACILITY INFORMATION

Facility Address: 17 Vassar Drive # L113  
City: Rehoboth Beach State: DE Zip Code: 19971  
DPL Account #: 5500 5296 847 Meter #: NXA103853930  
Current Annual Energy Consumption (optional): 10854 kWh  
Check if this Facility (building) is, or is going to be, NEW CONSTRUCTION: ☐  
Estimated Commissioning Date: 1/30/15  
Energy Source: Solar PV ☒ Prime Mover: Photovoltaics ☒

Type of Application: Initial ☒ Addition/Upgrade ☐ <sup>1</sup>

**Initial Rating:**

DC Generator Total<sup>2</sup> Nameplate Rating: 8.4 (kW),  
AC Inverter Total<sup>3</sup> Rating 7.6 (kW),  
AC System Design Total Capacity<sup>4</sup>: 7.6 (kW) 7600 (kVA)

**Added Rating (if upgrade):** DC Generator Total Nameplate Rating: \_\_\_\_\_ (kW),  
AC Inverter Total Rating \_\_\_\_\_ (kW),  
AC System Design Total Capacity: \_\_\_\_\_ (kW) \_\_\_\_\_ (kVA)

**Total Rating (if upgrade):** DC Generator Total Nameplate Rating: \_\_\_\_\_ (kW),  
AC Inverter Total Rating \_\_\_\_\_ (kW),  
AC System Design Total Capacity: \_\_\_\_\_ (kW) \_\_\_\_\_ (kVA)

Generator (or PV Panel) Manufacturer, Model #<sup>5</sup>: SolarWorld 280w

A copy of Generator nameplate and Manufacturer's Specification Sheet may also be submitted

Number of Generators (or PV Panels): 30

Type of Tracking if PV: Fixed ☒ Single Axis ☐ Double Axis ☐

Array Azimuth if PV: 132, 222 ° Array Tilt if PV: 35, 23 °

Shading Angles if PV at E, 120°, 150°, S, 210°, 240°, W: \_\_\_\_\_ ° (Separate with commas)

Inverter Manufacturer<sup>6</sup>: Fronius Model Number(s) of Inverter<sup>7</sup>: PRIMO 7.6

Number of Inverters<sup>8</sup>: 1 Inverter Type: Forced Commutated ☐ Line Commutated ☐

Ampere Rating: 31.66 Amps<sub>AC</sub>, Number of Phases: ☒ 1 ☐ 3

Nominal Voltage Rating: 240 V<sub>AC</sub>, Nominal DC Voltage: 249.6 V<sub>DC</sub>,

Power Factor: .85-100 %, Frequency: 60 Hz, Efficiency:<sup>9</sup> 96 (%)

DPL Taggable, Lockable, Accessible Disconnect<sup>9</sup>: ☐ Yes ☒ No,

If Yes, Location: \_\_\_\_\_

One-line Diagram Attached (Required): ☒ Yes ☐ No,

Site Plan Attached (Required): ☒ Yes ☐ No

Do you plan to export power?<sup>10</sup> ☒ Yes ☐ No, If Yes, Estimated Maximum: 6 kW<sub>AC</sub>

Estimated Gross Annual Energy Production: 10,319 kWh

Is the inverter IEEE/UL1741 lab certified? Yes ☒ No ☐

(If yes, attach manufacturer's cut sheet showing listing and label information from the appropriate listing authority, e.g. UL 1741 listing. If no, facility is not eligible for Level 1 Application.)

<sup>1</sup> Initial if first time generator request. Addition/Upgrade if this is an add-on to a previously approved system.

<sup>2</sup> Sum of all generators or PV Panels

<sup>3</sup> Sum of all inverters

<sup>4</sup> This will be your system design capacity based upon your unique system variables.

<sup>5</sup> If more than one type, please list all manufactures and model numbers.

<sup>6</sup> If more than one manufacture, please list all.

<sup>7</sup> If more than one model number, please list all.

<sup>8</sup> Attach additional sheets as necessary in the event of multiple inverters of various types/sizes

<sup>9</sup> This is strongly recommended by the utility. Best practice is to have an externally accessible, lockable, disconnect with visible open/close connection and to have appropriate signage on the disconnect, such as 'Solar PV AC Disconnect' (preferably red) and on the meter housing 'Caution, Solar Electric System' (preferably yellow). If the disconnect is not in the immediate vicinity of the meter, please include the disconnect location on the meter signage. This enables the utility and first responders to more quickly deal with an emergency situation.

<sup>10</sup> Yes, if your expected maximum output of the inverter (kW AC) is greater than the lowest load you anticipate at your facility during maximum PV output (kW). The difference would be the amount you may export.

**EQUIPMENT INSTALLATION CONTRACTOR**Owner (Customer) Installed: ☐ Yes ☐ NoContractor Name: Alutech United UnitedMailing Address: 117 Dixon StCity: SelbyvilleState: DEZip Code: 19975Telephone (Daytime): 800-233-1144(Evening): 302-841-9059Fax Number: 302-436-5100E-Mail Address (Required): shelly@greenstreetsolar.com**ELECTRICAL CONTRACTOR**Electrical Contractor Name: Alutech United IncMailing Address: 117 Dixon StCity: SelbyvilleState: DEZip Code: 19975Telephone (Daytime): 800-233-1144(Evening): 302-841-9059Fax Number: 302-436-5100E-Mail Address: russell@alutech.comLicense number: T1-0005686Active License? Yes ☒ No ☐Is small generator facility eligible for Net Metering? Yes ☒ No ☐**INSURANCE DISCLOSURE**

The attached terms and conditions contain provisions related to liability and indemnification, and should be carefully considered by the interconnection customer. The interconnection customer is not required to obtain general liability insurance coverage as a precondition for interconnection approval; however, the interconnection customer is advised to consider obtaining appropriate insurance coverage to cover the interconnection customer's potential liability under this agreement.

**CUSTOMER SIGNATURE**

I hereby certify that: 1) I have read and understand the terms and conditions which are attached hereto by reference and are a part of this Agreement; 2) I hereby agree to comply with the attached terms and conditions; and 3) to the best of my knowledge, all of the information provided in this application request form is complete and true. I consent to permit the PSC and interconnecting utility to exchange information regarding the generating system to which this application applies.

Interconnection Customer Signature:  Date: 12/9/15Printed Name: Konrad NoebelTitle: Homeowner

**Conditional Agreement to Interconnect Small Generator Facility** (for EDC use only)

Receipt of the application fee is acknowledged and, by its signature below, the EDC has determined the interconnection request is complete. Interconnection of the small generator facility is conditionally approved contingent upon the attached terms and conditions of this Agreement the return of the attached Certificate of Completion duly executed, verification of electrical inspection and successful witness test or EDC waiver thereof.

EDC Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_ Title: \_\_\_\_\_





Shelly Culver &lt;shelly@greenstreetsolar.com&gt;

## Interconnection Application - Approval to Install For: Konrad B Noebel, DE, Level 1, 55005296847

1 message

gpc-north@pepcoholdings.com &lt;gpc-north@pepcoholdings.com&gt;

Tue, Dec 29, 2015 at 10:45 PM

To: btcx@msn.com

Cc: shelly@greenstreetsolar.com, GPCNEM@pepcoholdings.com



We support renewable energy and partner with our customers to ensure safe and reliable interconnection of renewable energy into the electric grid.

Your request is documented as follows:

**Customer Name:** Konrad B Noebel  
**Street Address:** 17 VASSAR DR #L113  
**City, State:** REHOBOTH BEACH, DE  
**Account Number:** 55005296847  
**Tracking Number:** 116758-6138882  
**Source:** SPV  
**Generation Size:** 7.6  
**Add-On:** NO  
**Tariff:** NET METER

We have completed the technical screen of your interconnection request. Congratulations. The initial part of your interconnection application request is approved and you are now authorized to install your renewable generator system.

Next Steps: You may now build and install your system. After your system has been installed, complete your interconnection request by submitting the following.

- Part II of the Interconnection Application (*Certificate of Completion* ('COC')), and
- local electrical inspection certificate. NOTE: Copies or photos of the inspection stickers will not be accepted.

Friendly reminder: In accordance with State regulations, you are not permitted to turn on your generator system until you have received our written *Authorization to Operate*. Click [HERE](#) to learn more about the potential hazards.

Thank you for the opportunity to assist you with your interconnection request. If you have any questions or concerns, please call (866) 634-5571. To ensure a response, please send all correspondence to [gpc-north@pepcoholdings.com](mailto:gpc-north@pepcoholdings.com)



Energy for a changing world.™

Your Green Power Connection Team  
A PHI Company  
(866) 634-5571 - Phone



A PHI Company

## PART 2

### DELAWARE INTERCONNECTION APPLICATION & AGREEMENT

With Terms and Conditions for Interconnection  
(Lab Certified Inverter-Based Small Generator Facilities Less than or Equal to 10 kW)  
(Final Agreement – must be completed after installation and prior to interconnection)

### Certificate of Completion<sup>11</sup>

#### INTERCONNECTION CUSTOMER CONTACT INFORMATION

Customer Name: Konrad Noebel  
Mailing Address: 17 Vassar Drive  
City: Rehoboth Beach State: DE Zip Code: 19971  
Telephone (Daytime): 302-645-6225 (Evening): \_\_\_\_\_  
Fax Number: \_\_\_\_\_ E-Mail Address: btcx@msn.com

#### FACILITY INFORMATION

Facility Address: 17 Vassar Drive  
City: Rehoboth Beach State: DE Zip Code: 19971  
DPL Account #: 5500 5296 847 Meter #: NXA103853930  
Energy Source: Solar PV ☒ Prime Mover: Photovoltaics ☒  
Inverter Type: Forced Commutated ☒ Line Commutated ☐  
Number of Inverters: 1  
Inverter Manufacturer: Fronius Model Number(s) of Inverter: PRIMO 7.6

Rating DC Generator Total<sup>12</sup> Nameplate Rating: 8.4 (kW),  
AC Inverter Total<sup>13</sup> Rating 7.6 (kW),  
AC System Design Total Capacity<sup>14</sup>: 7.6 (kW) 7600 (kVA)

Generator (or PV Panel) Manufacturer, Model #<sup>15</sup>: SolarWorld 280w MONO Black

<sup>11</sup> Information entered here on Certificate of Completion (Part 2) must match part 1

<sup>12</sup> Sum of all generators or PV Panels

<sup>13</sup> Sum of all inverters

<sup>14</sup> This will be your system design capacity based upon your unique system variables.

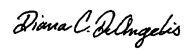
<sup>15</sup> If more than one type, please list all manufactures and model numbers.

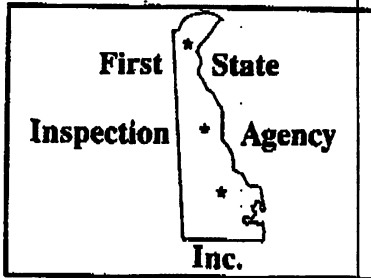
**EQUIPMENT INSTALLATION CONTRACTOR**Owner (Customer) Installed: ☐ Yes ☐ NoContractor Name: Alutech United IncMailing Address: 117 Dixon StCity: SelbyvilleState: DEZip Code: 19975Telephone (Daytime): 800-233-1144(Evening): 302-841-9059Fax Number: 302-436-5100E-Mail Address: shelly@greenstreetsolar.com**FINAL ELECTRIC INSPECTION AND INTERCONNECTION CUSTOMER SIGNATURE**

The Small Generator Facility is complete and has been approved by the local electric inspector having jurisdiction. A signed copy of the electric inspector's form indicating final approval is attached. The Interconnection Customer acknowledges that it shall not operate the Small Generator Facility until receipt of the final acceptance and approval by the EDC as provided below.

Signed:  Date 2/18/2014  
(Signature of interconnection customer)Printed Name: Konrad NoebelCheck if copy of signed electric inspection form is attached ☒**ACCEPTANCE AND FINAL APPROVAL FOR INTERCONNECTION (for EDC use only)**

The interconnection agreement is approved and the Small Generator Facility is approved for interconnected operation upon the signing and return of this Certificate of Completion by EDC:

Electric Distribution Company waives Witness Test? (Initial) Yes (DCD) No (      )If not waived, date of successful Witness Test:                      Passed: (Initial) (      )EDC Signature:  2016.02.18 10:36:42 -05'00' Date: 2/18/16Printed Name: Diana C. DeAngelis Title: Regulatory Affairs Lead



**First State Inspection Agency, Inc.**  
**1001 Mattlind Way**  
**Milford, DE 19963**

**1-800-468-7338**  
**302-422-3859**

Alutech United, Inc.  
James Rodrigue  
PO Box 329  
Selbyville, DE 19975

## CERTIFICATE

Final Inspection Date: 2-8-16  
Application #: 020196  
Owner: Konrad Noebel  
Occupancy: 8.4 KW Solar Array  
Location: 17 Vassar Drive, Maplewood Dev.  
Rehoboth Beach, Sussex Co., DE

This certifies that the installation of electrical equipment listed on referenced application has been approved as meeting the requirements of the National Electric Code, utility municipalities and Agency rules. Any modification, addition or alteration of the electrical system, after the date of final inspection, will require a new application for inspections and certifications.

  
**Chief Electrical Inspector**

F.S. CERT

10. If the Applicant's installation is solar or wind sited in Delaware, is a minimum of 50% of the cost of the renewable energy equipment, inclusive of mounting components, manufactured in Delaware?

☒ Yes\*      ☐ No

Alutech United

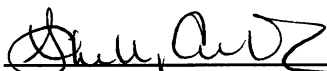
Company Name of Installer

117 Dixon Street

Address

Selbyville, DE 19975

Address



Signature of Company Representative

Shelly Culver

Print Name of Co. Representative

**\*If Yes, please attach the following documentation:**

- A copy of the supplier's invoice showing Delaware manufactured equipment with this facility identified
  - If the supplier's invoice shows only a coded Purchase Order (PO) number, a copy of the company's matching PO that includes the address where the materials were used/installed, must also be supplied
  - If using a master invoice, a record of the draws against the purchased quantity, on the master invoice, must show the address of each use and the quantity of material used

11. If the Applicant's installation is solar or wind sited in Delaware:

a. Was the facility physically constructed or installed with a workforce that consists of at least 75% Delaware residents?

☒ Yes\*      ☐ No

b. Does the installing company employ, in total, a minimum of 75% workers who are Delaware residents?

☒ Yes\*      ☐ No

Alutech United

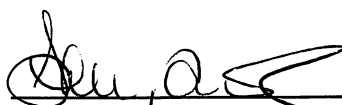
Company Name of Installer

117 Dixon Street

Address

Selbyville, DE 19975

Address



Signature of Company Representative

Shelly Culver

Print Name of Co. Representative

**\*If Yes, please attach supporting documentation (see pages 7-8 for details). Please note, in order to qualify for the Labor/Workforce Bonus, at least one of the options (a. or b.) must be met.**

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**Documentation Required for Delaware Labor/Workforce Bonus**

11. If the Applicant's installation is solar or wind sited in Delaware:

- a. Was the facility physically constructed or installed with a workforce that consists of at least 75% Delaware residents?

If you answered yes to "a." above, complete the following as evidence.

The following individuals (list every employee) were employed by

Alutech United DBA Green Street Solar

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Installation Company Name

as direct labor (physical construction and installation) for this facility: (Attach additional sheets if necessary)

**Please complete the following information for all individuals listed above:**

Name	Home Address (As per Tax Withholding)	Social Security Number (Last 4 digits only)
N/A		

Total Delaware Resident Employees: 20 Total Number of Employees: 30

% of Delaware Residents (Delaware Residents Divided by Total Employees): 67<sup>0</sup>/10

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**Documentation Required for Delaware Labor/Workforce Bonus**

11. If the Applicant's installation is solar or wind sited in Delaware:

- b. Does the installing company employ, in total, a minimum of 75% of workers who are Delaware residents?

If you answered yes to "b." above, complete the following as evidence:

Alutech United DBA Green Street Solar

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Installation Company Name

employed the following individuals (list EVERY employee on the payroll during the period from project start date until project completion date). Projects are considered complete upon final interconnection approval to operate. (Attach additional sheets if necessary)

Project Start Date: 1-25-2014 Project Complete Date: \* 1-28-2014

Employee Full Name	Home Address (As per Tax Withholding)	Social Security Number (Last 4 digits Only)
N/A		

Total Delaware Resident Employees: 20 Total Number of Employees: 30

% of Delaware Residents (Delaware Residents Divided by Total Employees): 67%

	NAME	STREET ADDRESS	CITY	ST	ZIP	SS#
1	Aaron Woods	22763 Coverdale Road	Seaford	DE	19973	25
2	Adam Ash	36096 Zion Church Road	Frankford	DE	19945	24
3	Alfred Bangert	17905 Careys Camp Road	Laurel	DE	19956	33
4	Antione Johnson	27542 Holly Hock Lane	Seaford	DE	19973	29
5	Cody Perry	112 East Tingle Drive	Selbyville	DE	19975	75
6	Daniel Fleetwood, III	36157 Millers Neck Road	Frankford	DE	19945	68
7	David Linehan	26393 Sea Mist Court	Millsboro	DE	19966	85
8	Derek Dykes	31866 Mountain Laurel Ridge	Laurel	DE	19956	74
9	Donnie Baker	35359 Danny Drive	Laurel	DE	19956	60
10	Dustin Brittingham	2 Leah Street	Georgetown	DE	19947	01
11	George Carey	36966 Deer Drive	Selbyville	DE	19975	69
12	George Pfaller	24501 Cedar Lane	Georgetown	DE	19947	48
13	James Webb	629 Gun and Rod Club Road	Harrington	DE	19952	63
14	Jason Killen	16502 Old Furnace Road	Georgetown	DE	19947	18
15	Jason Roth	36851 Old Mill Bridge Road	Selbyville	DE	19975	90
16	Jose Cordoba	Lazy Lagoon Lot 41	Frankford	DE	19945	42
17	Michael Haymond	12640 Beach Hwy.	Greenwood	DE	19950	01
✓ 18	Richard Jalot, 2nd	18546 Sand Hill Rd.	Georgetown	DE	19947	22
19	W. Jeffrey Timmons	11127 Signature Blvd.	Selbyville	DE	19975	52
20	William Warden	26163 Kelly Circle	Seaford	DE	19973	89
21	Brian Reed, Jr.	233 Briarwood Circle	Denton	MD	21629	00
22	Erik Diaz-Padilla	105 Caroline St., Unit 6	Ocean City	MD	21842	15
23	John Basch	1504 Sharen Drive, Apt. F	Salisbury	MD	21801	96
24	Kyle Handy	106 Meadow Drive, Unit 208	Easton	MD	21601	00
25	Lisa Bloom	403 143 <sup>rd</sup> Street, Unit 5	Ocean City	MD	21842	74
26	Mark Caldwell	1004 Philadelphia Avenue, Unit 5	Ocean City	MD	21842	20
27	Richie Wright	5637 Caledonia Drive	Salisbury	MD	21801	40
28	Russell Pfaller	7167 Chatham Manor Way	Pittsville	MD	21850	98
29	Shelly Culver	1010 Marley Manor Drive, #101	Salisbury	MD	21804	59
30	Tyler Burr	403 143 <sup>rd</sup> Street, Unit 5	Ocean City	MD	21842	69